WATER FEATURES McLean County, North Dakota

The Water Features table gives estimates of various water features. The estimates are used in land use planning that involves engineering considerations. Hydrologic soil groups are based on estimates of runoff potential. Soils are assigned to one of four groups according to the rate of water infiltration when the soils are not protected by vegetation, are thoroughly wet, and receive precipitation from long-duration storms.

The four hydrologic soil groups are:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

The months in the table indicate the portion of the year in which the feature is most likely to be a concern.

Water table refers to a saturated zone in the soil. The Water Features table indicates, by month, depth to the top (upper limit) and base (lower limit) of the saturated zone in most years. Estimates of the upper and lower limits are based mainly on observations of the water table at selected sites and on evidence of a saturated zone, namely grayish colors or mottles (redoximorphic features) in the soil. A saturated zone that lasts for less than a month is not considered a water table. Ponding is standing water in a closed depression. Unless a drainage system is installed, the water is removed only by percolation, transpiration, or evaporation. The Water Features table indicates surface water depth and the duration and frequency of ponding. Duration is expressed as very brief if less than 2 days, brief if 2 to 7 days, long if 7 to 30 days, and very long if more than 30 days. Frequency is expressed as none, rare, occasional, and frequent. None means that ponding is not probable; rare that it is unlikely but possible under unusual weather conditions (the chance of ponding is nearly 0 percent to 5 percent in any year); occasional that it occurs, on the average, on the average, more than once in 2 years (the chance of ponding is more than 50 percent in any year).

Flooding, the temporary inundation of an area, is caused by overflowing streams, by runoff from adjacent slopes, or by tides. Water standing for short periods after rainfall or snowmelt is not considered flooding, and water standing in swamps and marshes is considered ponding rather than flooding.

Duration and frequency are estimated. Duration is expressed as extremely brief if 0.1 hour to 4 hours, very brief if 4 hours to 2 days, brief if 2 to 7 days, long if 7 to 30 days, and very long if more than 30 days. Frequency is expressed as none, very rare, rare, occasional, frequent, and very frequent. None means that flooding is not probable; very rare that it is very unlikely but possible under extremely unusual weather conditions (the chance of flooding is less than 1 percent in any year); rare that it is unlikely but possible under unusual weather conditions (the chance of flooding is 1 to 5 percent in any year); occasional that it occurs infrequently under normal weather conditions (the chance of flooding is 5 to 50 percent in any year); frequent that it is likely to occur often under normal weather conditions (the chance of flooding is more than 50 percent in any year but is less than 50 percent in all months in any year); and very frequent that it is likely to occur very often under normal weather conditions (the chance of flooding is more than 50 percent in all months of any year).

The information is based on evidence in the soil profile, namely thin strata of gravel, sand, silt, or clay deposited by floodwater; irregular decrease in organic matter content with increasing depth; and little or no horizon development.

Also considered are local information about the extent and levels of flooding and the relation of each soil on the landscape to historic floods. Information on the extent of flooding based on soil data is less specific than that provided by detailed engineering surveys that delineate flood-prone areas at specific flood frequency levels.

(Depths of layers are in feet. See text for definitions of terms used in this table. Estimates of the frequency of ponding and flooding apply to the whole year rather than to individual months. Absence of an entry indicates that the feature is not a concern or that data were not estimated.)

			Soil Sat	uration		Ponding		Flooding	
Map symbol and soil name	Hydro- logic group	Month	Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
Ac: Aquents	C								
114401105		January	1.0-3.5	>6.0					None
		February	1.0-3.5	>6.0					None
		March April	1.0-3.5	>6.0 >6.0					None None
		May	1.0-3.5	>6.0					None
		June	1.0-3.5	>6.0					None
		July August	1.0-3.5	>6.0 >6.0					None None
		September	1.0-3.5	>6.0					None
		October	1.0-3.5	>6.0					None
		November	1.0-3.5	>6.0					None
Af:		December	1.0-3.5	>6.0					None
Aquolls	D								1
		January	0.0	>6.0	0.0-5.0				None
		February March	0.0	>6.0 >6.0	0.0-5.0				None None
		April	0.0	>6.0	0.0-5.0				None
		May	0.0	>6.0	0.0-5.0				None
		June	0.0	>6.0 >6.0	0.0-5.0				None
		July August	0.0	>6.0	0.0-5.0				None None
		September	0.0	>6.0	0.0-5.0				None
		October	0.0	>6.0	0.0-5.0				None
		November December	0.0	>6.0 >6.0	0.0-5.0				None None
ArA:		December	"."	, 0.0	0.0 3.0				None
Arnegard	В								
arB:									
Arnegard	В		1						
ArC: Arnegard	В								-
Arnegara	"								
Ba:									
Banks	A	March						Brief	Occasiona
		April						Brief	Occasiona
		May						Brief	Occasiona
DI- •		June						Brief	Occasiona
3k: Banks	A								1
Dailli	1	March						Brief	Occasiona
		April						Brief	Occasiona
		May June						Brief Brief	Occasiona Occasiona
BoA:								DITCI	Jecusiona
Bowbells	В								
BsB:									
Bowbells	В								
Williams	В								
BwA:	_								
Bowdle	В								
зув:								-	
Bowdle	В								
Stady	В								
ByC:									
Bowdle	В								
QL - d	_								
Stady	В								1

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			Soil Sat	uration	-	Ponding		Flooding	
Map symbol and soil name	Hydro- logic group	Month	Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
	-		Ft	Ft	Ft				
CaE: Cabba	- D								
lbF:									
Cabba	- D								
Shale Outcrop	- D	1							
CF:									
Cut And Fill Land	- В	1							
ChD:									
Cohagen	- D								
Vebar	- В								
ChE:									
Cohagen	İ								
Vebar	- В								
Co:									
Colvin	- C/D	January	0.0-1.0	>6.0					None
		February	0.0-1.0	>6.0					None
		March April	0.0-1.0	>6.0 >6.0					None None
		May	0.0-1.0	>6.0					None
		June October	0.0-1.0	>6.0 >6.0					None None
		November December	0.0-1.0	>6.0 >6.0					None None
Om: Dimmick		December	0.0 1.0	, 0.0					None
DIMMICK	- D	April	0.0	>6.0	0.0-1.0				None
		May June	0.0	>6.0 >6.0	0.0-1.0				None None
		July	0.0	>6.0	0.0-1.0				None
Ov: Divide	- B	-					-		
		April	2.5-5.0	>6.0 >6.0					None None
		May June	2.5-5.0	>6.0					None
FaA: Falkirk	_ B		-						
FaB:									
Fab. Falkirk	- В								
FbA:									
Falkirk	- B								
Max	- В								
FbB:									
Falkirk	- В								
Max	- B								
FbC:		-							
Falkirk	- В								
Max	- B								
FfA:									
Farnuf	- B								
rfB:		-							
	- В	1	1 1		1		1		1

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			Soil Sat	uration		Ponding		Floo	ding
Map symbol and soil name	Hydro- logic group	Month	Upper limit	Lower	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
FlD: Flasher	- D								
FlE: Flasher	- D								
FnA: Flaxton	- В								
FnB: Flaxton	- B								
FnC:									
Flaxton	- В								
Fs: Fossum	- B/D								
	'	January	0.5-1.5	>6.0					None
		February March	0.5-1.5	>6.0 >6.0					None None
		April	0.5-1.5	>6.0					None
		May	0.5-1.5	>6.0					None
		June	0.5-1.5	>6.0					None
		July	0.5-1.5	>6.0					None
		August	0.5-1.5	>6.0					None
		September	0.5-1.5	>6.0					None
		October	0.5-1.5	>6.0					None
		November	0.5-1.5	>6.0					None
GaA:		December	0.5-1.5	>6.0					None
Grail	- C								
GaB: Grail	- c								
Gn:		-							
л. Grano	- D								
Grano	٦ ا	April	0.0	>6.0	0.0-1.0				None
	-	May	0.0	>6.0	0.0-1.0				None
		June	0.0	>6.0	0.0-1.0				None
		July	0.0	>6.0	0.0-1.0				None
GoA:		1							
Grassna	- В		1 1						
		April	4.0-6.0	>6.0					None
		May	4.0-6.0	>6.0					None
an.		June	4.0-6.0	>6.0					None
GP: Gravel Pits	7	1							
GLAVEL PILS	- A	1							
HaA:		1							
Hamerly	-l c	1							
<u></u>		April	2.0-4.0	>6.0					None
		May	2.0-4.0	>6.0					None
		June	2.0-4.0	>6.0					None
ik:									
Harriet	- D]				
		January	0.0-1.0	>6.0					None
		February	0.0-1.0	>6.0					None
		March	0.0-1.0	>6.0					None
		April	0.0-1.0	>6.0				Long	Occasional
		May	0.0-1.0	>6.0				Long	Occasional
	1	June	0.0-1.0	>6.0				Long	Occasional
	-	10 1							
		September	0.0-1.0	>6.0					None
		September October November	0.0-1.0 0.0-1.0 0.0-1.0	>6.0					None None None

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			Soil Sat	turation		Ponding		Floc	ding
Map symbol and soil name	Hydro- logic group	Month	Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
Saline Land	С	January February March April May June October November December	3.5-5.0 3.5-5.0 3.5-5.0 3.5-5.0 3.5-5.0 3.5-5.0	3.5-5.0 3.5-5.0 3.5-5.0 3.5-5.0 3.5-5.0 3.5-5.0 3.5-5.0 3.5-5.0		 		 	None None None None None None None None
Havrelon	В								
Ho:		March April May June		 	 	 	 	Brief Brief Brief Brief	Occasional Occasional Occasional
Havrelon	В	_							
Hs:		March April May June		 	 	 	 	Brief Brief Brief Brief	Occasional Occasional Occasional Occasional
Heil	D								
		March April May June July	0.0 0.0 0.0 0.0	>6.0 >6.0 >6.0 >6.0 >6.0	$ \begin{vmatrix} 0.0-1.0 \\ 0.0-1.0 \\ 0.0-1.0 \\ 0.0-1.0 \\ 0.0-1.0 \\ 0.0-1.0 \\ \end{vmatrix} $	 	 	 	None None None None None
IL: Intermittent Lake									
KrB: Krem	A								
La:									
Lallie	D	April May June July August	0.0-1.0 0.0-1.0 0.0-1.0 0.0-1.0 0.0-1.0	>6.0 >6.0 >6.0 >6.0 >6.0 >6.0	 	 		Long Long Long 	Frequent Frequent Frequent None None
LaK: Lake									
LeB: Lihen	A								
LeC: Lihen	A								
LgE: Lihen	A								
Zahl	В								
LmB: Linton	В								
Mandan	В								
LmC: Linton	В								
MandanLmD:	В								
Linton Mandan	В								

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			Soil Sat	uration		Ponding		Floo	ding
Map symbol and soil name	Hydro- logic group	Month	Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
mE:									
Linton	В								
Mandan	В								
·w:									
Lohler	D								
		January February	3.0-5.0	>6.0 >6.0					None None
		March	3.0-5.0	>6.0					None
		April	3.0-5.0	>6.0					None
		May June	3.0-5.0	>6.0 >6.0					None None
		September	3.0-5.0	>6.0					None
		October	3.0-5.0	>6.0					None
		November December	3.0-5.0	>6.0 >6.0		 			None None
y:		December	3.0-5.0	~0. 0					Mone
Lohler	D	_			[
		January February	3.0-5.0	>6.0 >6.0		 			None None
		March	3.0-5.0	>6.0 >6.0					None
		April	3.0-5.0	>6.0					None
		May	3.0-5.0	>6.0 >6.0					None None
		June September	3.0-5.0	>6.0					None
		October	3.0-5.0	>6.0					None
		November	3.0-5.0	>6.0		 			None
ia:		December	3.0-5.0	>6.0					None
Makoti	В								
		January	5.0-6.0	>6.0		 			None
		February March	5.0-6.0	>6.0 >6.0					None None
		April	5.0-6.0	>6.0					None
		May	5.0-6.0	>6.0					None
		June September	5.0-6.0	>6.0 >6.0					None None
		October	5.0-6.0	>6.0					None
		November	5.0-6.0	>6.0					None
idA:		December	5.0-6.0	>6.0					None
Mandan	В		1						
da.									
IdB: Mandan	В								
	_								
IdC: Mandan	В								
rianuali	5								
if:	1				[
Marysland	B/D	March	0.0-1.5	>6 O					None
		April	0.0-1.5						None
		May	0.0-1.5	>6.0					None
		June July	0.0-1.5	>6.0 >6.0					None None
gB:		Cury	0.0-1.5	-0.0				- -	1,0116
Max	В				[
hC:									
nc: Max	В								
Bowbells	В								
Zahl	В								
	-								
ilC:	1		1		1				

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	-		Soil Sat	uration		Ponding		Floo	ding
Map symbol and soil name	Hydro- logic group	Month	Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
Zahl	В								
flD:									
Max	В								
Zahl	В								
MoC:									
Morton	В								
WbA: Niobell	C								
NIODEII		April	3.5-5.0	>6.0					None
		May June	3.5-5.0	>6.0 >6.0					None None
Williams	В	loune							
NbB:	-								
Niobell	C	7	2 0	0					27
		April May	3.5-5.0	>6.0 >6.0					None None
	_	June	3.5-5.0	>6.0					None
Williams	В								
NmB: Noonan	D								
NOOHali	D	April	3.5-5.0	>6.0					None
	l	May June	3.5-5.0	>6.0 >6.0					None None
Miranda	D	Jourie	3.5-5.0	>0.0					None
	l	March April	3.5-5.0	>6.0 >6.0					None None
		May	3.5-5.0	>6.0					None
NmD:		June	3.5-5.0	>6.0					None
Noonan	D								
	l	April	3.5-5.0	>6.0					None
		May June	3.5-5.0	>6.0 >6.0					None None
Miranda	D	Manah	3.5-5.0	>6.0					Name
		March April	3.5-5.0	>6.0					None None
		May June	3.5-5.0	>6.0 >6.0					None None
NtA:		oune	3.5-5.0	70.0					None
Nutley	D								
NtB:									
Nutley	D								
Or:	_								
Orthents	В	-							
Pa:									
Parnell	D	January	0.0	>6.0	0.0-2.0				None
		February	0.0	>6.0	0.0-2.0				None
	-	March April	0.0	>6.0 >6.0	0.0-2.0				None None
		May	0.0	>6.0	0.0-2.0				None
	-	June July	0.0	>6.0 >6.0	0.0-2.0				None None
		November	0.0	>6.0	0.0-2.0				None
Pe:		December	0.0	>6.0	0.0-2.0				None

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			Soil Sat	turation		Ponding		Floo	ding
Map symbol and soil name	Hydro- logic group	Month	Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
			Ft	Ft	Ft				
Parnell	D	January February March April May June July November December	0.0 0.0 0.0 0.0 0.0 0.0 0.0	>6.0 >6.0 >6.0 >6.0 >6.0 >6.0 >6.0 >6.0	0.0-2.0 0.0-2.0 0.0-2.0 0.0-2.0 0.0-2.0 0.0-2.0 0.0-2.0 0.0-2.0 0.0-2.0	 		 	None None None None None None None None
Parshall	В								
PhB: Parshall	В								
PhC: Parshall	В								
PhD: Parshall	В								
PoA: Parshall	В								
PoB: Parshall	В								
RgC: Regent	С								
RhB: Rhoades	D								
Rm: Riverwash	D								
		January February March April May June July August September October November December	0.0-2.0 0.0-2.0 0.0-2.0 0.0-2.0 0.0-2.0 0.0-2.0 0.0-2.0 0.0-2.0 0.0-2.0 0.0-2.0	>6.0 >6.0 >6.0 >6.0 >6.0 >6.0 >6.0 >6.0				Very long	None None Frequent Onne
Ro: Roseglen	В								
RpB: Roseglen	В								
Tansem	В								
RpC: Roseglen	В								
Tansem	В								
RsA: Ruso	В								
RtB: Ruso	В								
Manning	В								
RtC:									

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			Soil Sa	turation	-	Ponding		Floo	ding
Map symbol and soil name	Hydro- logic group	Month	Upper limit	Lower	Surface water depth	Duration	Frequency	Duration	Frequency
_			Ft	Ft	Ft				
Ruso	В								
Manning	В								
RxB: Ruso	В								
Manning	В								
RyC:									
Ruso	В								
Wabek	A								
RzA: Ruso	В								
SeD:									
Seroco	A								
Sn: Sinai	D								
St:									
Straw	В								
Sx: Straw	В								
Joran .		March						Brief	Frequent
		April May						Brief Brief	Frequent Frequent
TlC: Telfer	A								
Lihen	İ								
	A								
Tp: Tonka	C/D								
	'	April	0.0	>6.0	0.0-0.5				None
		May June	0.0	>6.0 >6.0	0.0-0.5				None None
Parnell	D	January	0.0	>6.0	0.0-2.0				None
		February	0.0	>6.0	0.0-2.0				None
		March April	0.0	>6.0 >6.0	0.0-2.0				None None
		May	0.0	>6.0	0.0-2.0				None
		June	0.0	>6.0	0.0-2.0				None
		July	0.0	>6.0	0.0-2.0				None
		November December	0.0	>6.0 >6.0	0.0-2.0				None None
Tr:		December	0.0	70.0	0.0-2.0				None
Trembles	В			İ					
		April						Brief	Occasional
		May						Brief	Occasional
VwC:		June						Brief	Occasional
Vebar	В								
Williams	В								
W: Water (water Areas >40 Acres									
WaB:									
Wabek	A								
Zahl	В	1	1		1		1		

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			Soil Sa	turation		Ponding		Floo	ding
Map symbol and soil name	Hydro- logic group	Month	Upper limit	Lower	Surface water depth	Duration	Frequency	Duration	Frequency
	В		Ft	Ft	Ft				
WaD: Wabek									
wabeк									
Max	В								
WbB:									
Wabek WbD:	A								
Wabek	A								
WlB: Williams	В								
WmA: Williams	В								
WmB: Williams	В								
WoA: Williams	В								
Bowbells									
WoB:									
WilliamsBowbells									
WoC:									
Williams									
Bowbells	В								
WpB: Williams	В								
Bowbells									
Zahl	В								
WrB: Williams	В								
Sinkhole	В								
WsA: Wilton	В								
WtB: Wilton	В								
Temvik	В								
WwC: Wilton	В								
Williams	В								
ZcE: Zahl	В								
Cabba	D								
ZmE:									

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			Soil Sat	turation		Ponding	,	Floor	ding
Map symbol and soil name	Hydro- logic group	Month	Upper limit	Lower limit	Surface water depth	Duration	Frequency	Duration	Frequency
Zahl	В		Ft	Ft	Ft				
Max	В								
ZpE:									
Max	В								
Zahl	В								
Parnell	D								
		January	0.0	>6.0	0.0-2.0				None
	1	February	0.0	>6.0	0.0-2.0				None
		March	0.0	>6.0	0.0-2.0				None
		April	0.0	>6.0	0.0-2.0				None
	Į.	May	0.0	>6.0	0.0-2.0				None
	Į.	June	0.0	>6.0	0.0-2.0				None
	Į.	July	0.0	>6.0	0.0-2.0				None
		November	0.0	>6.0	0.0-2.0				None
T 0.		December	0.0	>6.0	0.0-2.0				None
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